CAJAL Neuroscience Training Courses

The Brain Prize course.
Hippocampus: from Circuits to Cognition

Over the past 50 years, major breakthroughs in understanding hippocampal connectivity and function have been done. Continued technological advances have opened new opportunities for the study of this brain area at the level of molecules, cells, and networks. The advanced CAJAL course will give promising young neuroscientists in-depth exposure to the breadth of research on the hippocampus, and will provide hands-on training in state-of-the-art methods used to study hippocampal function. Ultimately, the school will promote interactions between students and leading experts on hippocampal anatomy, physiology and function via lecture series.

Venue: Bordeaux Neurocampus, France

Course directors:
• Jozsef CSICSVARI (Institute of Science and Technology, AT)
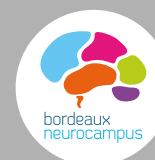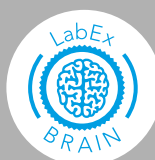• Charan RANGANATH (University of California, US)
On-site chairs:
• Christophe MULLE (University of Bordeaux, FR)
• Mario CARTA (University of Bordeaux, FR)
Apply at:

http://www.fens.org/Training/CAJAL-programme/CAJAL-programme/Hippocampus_2016/Application-Form-hippocampus2016/

Deadline: 31st July, 2016 (Brussels time, Midnight)

**BORDEAUX
10-31
OCT
2016**

SPEAKERS

Peter JONAS (AT) **Plasticity and synaptic transmission in the hippocampus**

Jozsef CSICSVARI (AT) **Mnemonic coding in hippocampal cell assemblies**

Christophe MULLE (FR) **Plasticity and synaptic transmission in the hippocampus**

Hannah MONYER (GE) **Genetic approaches to study of hippocampal circuit function**

Emrah DUZEL (GE) **Hippocampal function in neurodegenerative disease**

Menno WITTER (NOR) **Connectivity of the hippocampus circuits**

Kim GRAHAM (UK) **Role of Hippocampus in human spatial cognition**

Rosa COSSART (FR) **In vivo 2P imaging mechanisms of place-related activity**

Charan RANGANATH (US) **Mnemonic role of hippocampus in Humans and Anima**s

Howard EICHENBAUM (US) **Mnemonic coding in hippocampal cell assemblies**

Tamas FREUND (HU) **Interneuron circuits and their function**

Gyorgy BUZSAKI (US) **Network oscillation and temporal coding in hippocampus**

PRACTICAL COURSES: PROJECTS

1st block

1. *In vivo* and *in vitro* investigation of synaptic transmission in the hippocampus - Instructors: Marilena GRIGUOLI (IT) & Ashley Kees (FR)

2. Spiking and subthreshold oscillatory activity in CA1 pyramidal neurones - Instructor: Nikolaus MAIER (GE)

3. Hippocampal connectivity microconnectomics, brain clearing, ultramicroscopy - Instructor: Andreas FRICK (FR)

4. Optogenetics studies of adult hippocampal neurogenesis *in vivo* - Instructor: Nora ABROUS (FR)

5. Neurocomputation, biophysical models of neural cells and hippocampal circuits - Intructor: Sandro ROMANI (US)

6. Optogenetics and unit recordings during spatial learning - Instructor: Peter BARACSKA (AT)

7. Human hippocampus morphology - Instructors: Fabrice CRIVELLO and Pierrick COUPET (FR)

8. Hippocampal neuronal ensembles and the time organization of behaviour - Instructor: Xavier LEINEKUGEL (FR)

9. Functional MRI: Univariate analysis of hippocampal activity during virtual navigation - Instructor: Christian DOELLER (NL)

10. Sleep, hippocampal function and memory - Instructor: Lucia TALAMINI (NL)

2nd block

1. Optogenetic activation of an hippocampal engram - Instructor: Michele PIGNATELLI (US)

2. Dendritic processing, synaptic integration in hippocampus, slice recordings, 2P confocal imaging - Instructors: Nelson REBOLA (FR) and Judith MAKARA (HU)

3. Juxtacellular recording and labeling of single neurons *in vivo* - Instructor: Andrea BURGALOSSI (GE)

4. *In vivo* and *in vitro* investigation of synaptic transmission in the hippocampus - Instructors: Mario CARTA (FR) and Méryl MALÉZIEUX (FR)

5. Mutichannel neuronal oscillation recording - Instructor: Francesco BATTAGLIA (NL)

6. Functional MRI: multivariate voxel pattern similarity analysis - Instructor: Maureen RITCHEY (US)

7. Functional MRI: functional connectivity analysis and MRI-based segmentation of hippocampal subfields - Instructor: Laura LIBBY (US)

8. Functional MRI - Instructor: Chris BIRD (UK)

9. Multichannel recordings during complex spatial tasks - Instructor: Kevin ALLEN (GE)

BORDEAUX SCHOOL OF NEUROSCIENCE